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WHAT NAVIES FOR THE 21 ST CENTURY: BLUE WATER OR BROWN WATER?

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"The United States is a sea power by necessity, crucially dependent on the trans-oceanic import of vital strategic materials. For this reason our navy is designed to keep open the sea lanes world wide…maritime superiority is for us a necessity." – President Reagan[1]

INTRODUCTION

With the end of the Cold War more actors emerged at different levels creating a complex set of interrelations that ultimately challenge the sovereignty of the state in a wider agenda with significant consequences.

The relations between East and West improved reducing tensions between nuclear and non- nuclear states. However other small nuclear power states developed disproportionate capacities, as is the case of India and Pakistan. The proliferation of weapons of mass destruction (WMD) seems to have increased among state and non-state actors, while conventional arms trade between centre and periphery has increased. This brings more complexity to security issue and fuels potential regional conflicts.

The emergent global economy and their multinational organisations threaten the stability of poor states, which find it difficult to resist economic policy pressures. As a consequence and facing demographic growth and environmental changes, populations will migrate affecting the internal stability and enabling ethnic conflicts and the emergence of non-state actors with increasing asymmetric capabilities. This is typified in the character of the weak and failed states such as Sudan, Somalia and Rwanda. This in turn may lead to inter-state conflicts and to a wider insecurity[2].

At the sub-state level, exposure to other cultures, values and ideologies have raised questions within groups regarding ethnic and national identity. This may weaken the state leading to the fragmentation of society while strengthening a 'fundamentalist' reaction to the threat of culture and identity loss. Therefore terrorist actions are likely to increase, the 11th of September 2001 being one example.

These factors brought new challenges to the international community. A greater interdependence and cooperation are required, and states have more responsibilities and obligations because of humanitarian reasons. Therefore states are called upon to intervene with military force because they have an international responsibility for peace[3].

Major conflicts are currently unlikely, but the context of a changing world and the emerging new threats may require a more frequent use of military forces in low intensity conflicts as Geoffrey Till suggests[4], to solve local conflicts in order to impose or preserve peace, under UN mandate. In addition, states need to continue to apply diplomacy to defend their interests wherever necessary. These challenges bring a new set of strategic, operational and tactical concepts and new missions and requirements towards the concept of littoral operations, where joint coalition or national forces will act to influence the events ashore. An obvious recent example was the Gulf War, which proved that so called "expeditionary operations" are currently the ideal form of projecting power in any place worldwide, where navies have a prominent role by virtue of their characteristics of mobility, reach, sustainability and poise. Some argue that such operations portended the emergence of peacekeeping operations and that with the end of the Cold War nations will easily offer shore-based support to coalition forces, obviating the need for large naval units, and suggesting that navies will become more like coast guards[5]. This is an extremist point of view. Naval strategy theories still remain valid as will be shown and, in practice, nations within a crisis region may choose not to support a coalition in order to preserve its interests or relations with other states in the area. It is interesting to note that a revolutionary concept, "from-the-sea", is gaining form among Western navies, particularly in the US navy and in the RN, which emphasise land attack "core capabilities"[6], to deal with the littoral rather than the deep water warfare. Indeed deep water warfare almost seems to have sunk into oblivion. However, to project power ashore anywhere in the world, navies have to maintain offensive and sea control capabilities as well as sustained reach and poise, which are characteristics of blue water navies, not of brown water navies.

The aim of this paper is to determine and comprehend rationales from a Western perspective to support the argument in favour of possessing and needing to maintain blue water navies. It initially addresses and distinguishes the concepts of blue water and brown water and how they relate to sea

control and sea denial and set the concept of littoral. It will examine the economic value of the sea regarding its resources and its role and importance in maritime trade focusing its new trends and the implications for the navies in the future. Thirdly it will refer to the key points of asymmetric warfare and will examine the trend of weapons proliferation, the asymmetrical capabilities enabled by developing technologies made available to state, substate and nonstate actors, the spectrum of conflict that these actors can arouse and how they will oppose to the deployment of forces. Fourthly it will then explore some of the stability trends and their rationale in the strategic environment in the areas assessed as deserving most concern, namely East Asia, the Indian Ocean and the Mediterranean, demonstrating the potential scenarios where Western forces may be involved. Finally the paper will draw some conclusions as to whether nations should retain and maintain a blue water capability.

BLUE WATER VS BROWN WATER CONCEPTS

First of all the concepts of command or control of the sea and sea denial must be addressed because they are deeply related with the concepts of blue water and brown water navies.

Sir Julian Corbett defended the aim of naval warfare as either to secure command of the sea or to prevent the enemy from securing it[7]. Most generally command of the sea is accomplished by destroying, annihilating or neutralizing the enemy's naval forces at sea and in their bases, and by seizing or destroying their bases or support facilities ashore. This action has an offensive character and, if successful at a very early stage, enables navies to secure command both in the open ocean and in a narrow sea[8]. However the use of the sea in its entirety at any time is only possible if the whole enemy force has been destroyed, which is unlikely to be the final endstate of a campaign. Therefore the term control of the sea more realistically defines the condition that exists when one has freedom of action to use an area of the sea for one's own purposes for a period of time, and if necessary, deny its use to an opponent[9]. This is equally true for open-ocean, where a moving task force is exercising sea control in a defined area of interest around it, as for a narrow sea. Various historical examples exist. During the Korean War the North Koreans were forced to transport troops and supplies over land, because the UN held undisputed control of the sea[10]. One of the most recent was during the Gulf War where the coalition naval forces obtained almost absolute control of the northern part of the Arabian Gulf on the surface and in the air in the first 2 weeks[11].

Sea denial is the attempt to deny the enemy the use of the sea without necessarily being able to use it oneself[12]. An historical example is the Mediterranean during the Second World War. The combination of German and Italian naval and air forces denied the use of the Mediterranean to the British forces, thus limiting the reinforcement of the North Africa and Middle East theatres[13]. Sea denial means also that a weaker fleet can successfully challenge a stronger fleet and strike at a time and place of its choice to achieve surprise.

 Another important concept to be referred to is the term littoral, which the US navy relates to its ability to influence events ashore by projecting power and divides into two parts. One is the seaward area from the open ocean to shore, which must be controlled to support operations, and the other is the landward area from shore, that can be supported and defended directly from the sea[14]. The importance of this area is confirmed by the fact that 70% of the world's population live within 200 miles of the coastline, and 80% of the capitals and almost all of the political centres lie within 300 miles of the sea. This further emphasises the importance of projecting power ashore as one of the most complicated tasks for a navy, and critical if close to an enemy coast. As capability and technology continue to improve in the future, the larger the littoral will become[15]. Projecting power ashore consists of freedom of action of one's own forces to strike targets on the coast at a place and time not expected by the enemy. Littoral operations against enemy shore can range from large-scale amphibious assault landings, bombardments of naval bases and ports, destruction of facilities and other infrastructures, strikes against troops, to small-scale raids[16].

It is now important to establish the concepts of blue water navy and brown water navy and to distinguish their main characteristics and to identify the similarities, if any. These concepts exist since long time ago. Admiral Alfred Mahan, one of the greatest naval strategists, first set the key fundamentals of sea power towards the concept of blue water navy. The Americans in the late 19th century were interested in a defensive navy but in a restricted concept of "preventing the sacking and shelling or occupation of the harbours up and down the coast"[17]. Mahan contended against this narrow sense of coastal and ports defence, and argued that this was an army job and that the defensive strength of sea powers depends on fortifications to secure bases, which are the necessary foundation for naval power. He proceeded "if, instead of a navy for defence only, there be one so large that the enemy must send a great many ships across the Atlantic, then the question whether he can spare so great a number is very serious... Such a navy would be defensive only in the sense that its existence protects the country from invasion, because it commands the seas"[18]. Other statements largely support the thoughts of a blue water capability "if the great end of a war fleet was not to chase,

nor to fly, but to control the seas, the dominant characteristic required was power of offensive action"[19]. Mahan clearly stated the aim of the naval forces as being "to preponderate over the enemy's navy and to control the sea, then the enemy's ships and fleets are the true objects to be assailed on all occasions", and he went further "break up the enemy's power on the sea, cutting off his communications with the rest of his possessions, drying up the sources of his wealth in his commerce, and making possible a closure of his ports…"[20]. History proved the validity of these concepts when, for instance, in the late 19th century, the American fleet sailed for the Caribbean, blockaded and destroyed the Spanish squadron, and so demonstrated that naval power, exerted at some distance from own shores, determined the outcome, and hence undermined the coastal-defence theory[21].

A blue water navy is one with the capacity to establish sea control on the open ocean, beyond the reach of its own shore-based aviation or surface-to-surface missile systems[22]. A blue water navy has the ability to command a sea area while acting as an enabler for land and air forces to project power ashore. Projecting power ashore within the littoral is not the principal but only one of the many tasks in a navy's overall capabilities, but is the ultimate aim of any war at sea, while victory over the enemy fleet is only one of the prerequisites to accomplish the final aims of war[23]. To operate in the littoral a blue water navy must significantly increase its anti-air, anti-surface, anti-submarine and anti-mine capabilities to counter and reduce the threat posed by the enemy assets, especially regarding the threat posed by surface-to-surface missiles and mines. Thus a blue water navy has an offensive character. It sails from home-ports, has mobility, has the capability to conduct operations far away and locate and defeat an opponent's naval forces either in deep waters or in home waters or to disrupt its maritime activities through sea denial. Thus the main attributes of a blue water navy are[24]:

Mobility – ability to move to an area of operations to conduct a mission

Versatility – ability to change military posture, undertake several tasks concurrently and be rapidly available for re-tasking

Access – ability to use the sea to move and deploy to areas of interest and threat

Sustained reach – ability to operate for extended periods at considerable distance from shore support, using organic support

Resilience – ability to withstand damage and operate in areas contaminated with WMD

Lift capacity – sealift allows amphibious and land forces to transit and poise in theatre

Poise – ability to remain on station for prolonged periods, either overtly or covertly

Leverage – through positioning and force packaging maritime forces can provide maritime leverage to exploit access and to have an influence on events ashore much greater than the force applied

Thus one can expect ships with significant dimensions to deal with these requirements.

Major warships constitute these fleets. Nuclear and conventional submarines are also seen in blue water navies and nuclear deterrence could exist.

Opposed to blue-water navy is the concept of brown-water navy or coastal navy, tailored basically to be defensive and capable of providing sea denial. The main concern of the coastal states that do not have the resources or choose not to maintain a blue water capability is to preserve their economic sea resources, territorial waters and their coastlines from an enemy. In this sense a coastal navy or brown water navy operates close to base and with the support of land based fighters, may carry sufficient fire power to threaten the most powerful units of an opponent and operates in a well known coastal environment, functioning as a natural shelter. A brown water navy can also operate modern submarines that represent a serious threat to the combatants and high value units of a naval power in coastal or international waters, or perhaps even in its own home waters, in spite of the enemy sea control and air superiority[25]. In some situations these submarines fitted with state-of-the-art sensors and weapons can outperform nuclear submarines (SSNs), because they have a quieter noise signature[26]. Therefore one can expect that a brown water navy has some limited form of sea control capability in confined or coastal waters, is able to conduct sea denial operations and will very likely use asymmetric warfare to exploit the weaknesses of the opponent and impose unacceptable costs to a powerful opponent navy. Surprise attacks and employment of land-based air must also be expected.

It is now worthwhile evaluating if there are any common elements to both concepts. What matters

here are the underpinning strategic concepts of these two quite different kinds of navies. A blue water navy has an offensive character in regard to its employment, being capable of long operating periods far from home waters, and exercising sea control and projecting power against an enemy and denying it the use of the sea wherever necessary, whereas a brown water navy is designed to conduct defensive operations in the littoral, just where it can exercise limited sea control and sea denial operations. In this sense they are completely different. Clearly there is a huge difference between operating on the open ocean and in the littoral; the latter is an especially difficult environment for large surface combatants and SSNs, but also presents opportunities for blue water navies[27]. No war has been lost because a blue water navy was unprepared to carry out operations in the littoral. This of course may have costs if material and tactics are not suitable, but lessons of the past must be taken into account and reflected in the building of new ships, fitting them with the appropriate sensors and weapon systems that best operate in the littoral. On the other hand strategic and operational concepts must be developed, and operational and tactical doctrine must regard the specifics of operating blue water naval forces and aviation in the littoral. In contrast, a brown water navy is familiar with the littoral environment, but has to develop its strategy and operational concept as well, to best employ its forces. Again lessons learned from the past must be addressed[28].

THE IMPORTANCE OF THE SEA

"The most consistently sea dependent nations are either islands or states with long coastlines and limited land frontiers."- Admiral Hill[29]

The sea is considered a great highway that nations use as a means of transport which is the easiest and the cheapest in the world. Therefore states need sea power to protect and preserve these sea routes for military and commercial purposes both in peace and wartime. Nations want to exercise military power at sea employing their navies not only to ward off any threats to their sea lines of communications (SLOCs), but also to move their military power into distant waters in order to defend their interests, support other nations, coerce opponents or deny them the use of the sea. In addition, nations wish to exercise sea power in order to deploy strategic weapons at sea to threaten strategic targets on land or take countermeasures against the strategic weapons of their opponents. These weapons need complex and sophisticated protection to ensure the security of the ocean areas of their transit. On the other hand, nations wish to exercise sea power in order to gain or to enlarge their portion of the sea resources and to protect them against threats from others. The sea is a major source of food, energy and industrial materials and this becomes more and more important as the pace of technology enables a larger exploitation of these resources. As a result states claim new rights and limits to satisfy the growth of the population and its expectations of better living standards. This explains demands for the extension of territorial waters (TTW) and qualification of innocent passage, for the enlargement of exclusive economic zones (EEZ) to 200 nautical miles or more, and for the equal distribution of the richness provided by the exploitation of the deep seabed resources[30].

The sea still remains the most important means of international transport. About 95% of the global trade by volume is carried through the oceans. The significance of the shipping to the world economic activity and to the development of economic resources is enormous. It has gain a strategic importance that much contributed to the shift from a national system to the global economy and globalisation[31]. Crude oil and petroleum products constitute the largest seaborne trade, with the Middle East dominating the exports. The main customers are Western Europe and Japan. However large quantities of oil are carried by sea within Europe, from Africa to Europe and to the US, from Asia to Japan, from Alaska to the US and from the Caribbean to North America and Europe. This involves a complex pattern of SLOCs and choke-points all over the world. Another major seaborne trade is the liquid petroleum gas, with increased consumption and applications, requiring specialised carriers. In terms of solid cargoes, one third of world iron ore production is carried by sea. Many other products and dry cargos including food constitute a significant flow of maritime trade. Containers facilitated the handling, reduced the time spent in port to load/unload and permitted the inter-changeability among the different modes of transport, giving added value to the maritime transport. The roll-on roll-off (Ro-Ro) ships combined the flexibility of several cargo types with the load/unload facilities and increased the importance of the sea trade. In addition considerable volumes of sea trade are carried on short coastal or regional voyages. The same applies to passengers, especially when travelling with their own cars and linking with rail. The large passenger liners, despite being used almost exclusively as cruise ships, rather than a means of transport, are still important. In sum it can be said that the rising standards of living almost everywhere in the world tends to increase the trade, increasing the use of the sea as the main flow route for trade[32].

Shipping became a multinational enterprise leading to the separation of the national flag and the national economy of a state, which creates difficulties in relation to its protection and regulation.

Currently shipping is sailing under flags of convenience from "open" states, non-discriminatory to the ownership nationality. This situation emerged from a competitive market where ship-owners sought to cut operating costs and benefit from simple registration procedures and less stringent regulations. Countries like Panama, Liberia, Cyprus, Bahamas and Malta represent the flags of convenience among the first 10 country flags by deadweight tons[33].

The other trend verified over the last years was a substantial shift in the balance of trade in volume and value from the Atlantic to the Pacific. Actually the trade between Asian countries in the middle 1990s increased by approximately 125%, compared to 100% and 60% in Europe and North America respectively. Initially powered by the Japanese economy, this trend was also due to the rapid economic expansion of South Asian countries, India and China, capable of maintaining this growth in sea-borne trade over the long term within, to and from the region, and also accelerate the growth in world trade and economy[34]. The strategic environment in this region is having significant changes in the balance of power, as will be analysed later, which may create a complex and threatening environment to any form of intervention in defence of national or international interests.

The sea is a major source of food. Fish provides more than 25% of the world's supply of animal proteins, and 95% of the catch in the world is taken within the 200 nautical miles of the shore. The EEZs belonging to the littoral or island states, constrained the structure of the fishing industry of the fleet states, which are subjected to special regulations and levels of catch, as it is the case of the European Union. Therefore fishing is carried out in relatively restricted areas and agreements with distant states to provide access and facilities are sought. Some smaller South-Asian countries invested in distant deep-sea fishing enlarging their fleets[35].

The sea also provides substantial quantities of minerals, particularly oil and gas. Offshore hydrocarbons have transformed the economies of several states, facilitating a good economic health, as UK is an example. Other seabed resources, notably manganese nodules, are now able to be exploited because technology is becoming available and deep-sea extraction industries are developing. However the debate over ownership of seabed resources in the context of the Law of the Sea Treaty, the fear that an international authority will lead this issue, and the possibility of international consortium competition could make this market less attractive, precluding a suitable investment[36].

These trends have implications for navies as a national policy instrument in a globalized multi-polar world, where the states are not the principal actors in international relations, but are rather interdependent and cooperative, loosing part of their sovereignty under international regulations. So navies can no longer operate in view of their own national interests, but rather in a reality where a complex interplay of international interests have to be accommodated, making their missions more difficult. These changes must be considered by policy makers and naval staffs, enlarging the focus from traditional threats, to a more complex and unpredictable scenarios including threats that require navies to cooperate and participate in multi-national operations involving international organisations. The question of whether this scenario may arise may be answered again by the lessons of history. In 1985 and 1986 during the Iran–Iraq war, both countries made a significant number of attacks on each other's shipping (the tanker war), leading to a naval involvement of the superpowers and of Western Europe who were interested in maintaining the flow of maritime trade of vital energy products such as oil[37]. Therefore nations would require navies capable of projecting power anywhere in the world, in order to defend their national or international economic interests. However few nations have the economic resources to build and maintain a navy with global reach. So the choices for the navies are either seek multinational cooperation or invest in power projection platforms. Thus navies must work together in scenarios which impact far beyond their home waters, and involve economic embargo, possible mining of harbours and choke points or straits, piracy, illegal migration, drug smuggling, arms proliferation, illegal fishing and nuclear dumping. The integration of the global economy and mutual interdependence means that sources of negative impact on the seas, such as disruptions to shipping and trade, can take place anywhere with a cascade effect. So states must prepare their navies to be effective instruments of foreign policy in the 21st century[38].

CHANGING NATURE OF CONFLICT

"To fight and conquer in all your battles is not supreme excellence; supreme excellence consists in breaking the enemy's resistance without fighting" – Sun Tzu[39]

The term asymmetrical warfare describes an old concept of Sun Tzu, based on the principle that one should attack the enemy's weaknesses and not its strengths. This asymmetric strategy would achieve the political objectives without armed hostilities. It will place the opponent at such decisive disadvantage that its will to resist will disappear leading to capitulation or a compromise favourable to the practitioner of the asymmetric warfare.

There are basically two definitions of asymmetrical strategies and operations. One is based on capabilities, in which the actor with the more lethal and advanced weapons has an asymmetrical advantage over the opponent. In the Gulf War the US clearly held an asymmetrical superiority over Iraq. The other definition is based on the actor, meaning that the weaker, being a state, substate or nonstate entity, acts asymmetrically against a stronger power. Asymmetrical warfare is the use of strategies and tactics supported by appropriate capabilities, designed to defeat an enemy by attacking and exploiting its weaknesses and vulnerability. Even stronger, actors may be vulnerable at points that are important to maximize their strengths. For example post-industrial societies rely on communications and information technologies as sources of strength. To a weaker opponent these strengths constitute areas of vulnerability to be explored and attacked[40].

A weaker actor will use asymmetrical strategies and operations to deter, delay or deny the military actions of the opponent, imposing unacceptable costs that are going to defeat the will of the government and the support of the public to continue the conflict. The aim of the weaker party is to act at the strategic level by destroying the will to fight of the stronger party rather than its military forces[41]. Therefore the continuation or escalation of the conflict in face of the possibility of casualties or the loss of high value assets will be deeply questionable to the external power, as it would impose significant commitment of financial resources, resulting in domestic, political and public division and criticism. In a coalition this could profoundly affect the operation, as it would have different impacts on individual national domestic politics and wills to participate.

In a changed strategic environment while conventional symmetric challenges will persist, it is very likely that, in the future, adversaries will conduct asymmetrical strategies and operations, facilitated by the proliferation, affordability and dynamics of technology and lethal weapons, affecting naval operational concepts. However this emerging spectrum of conflict must be addressed taking into account the types of contingencies in which naval military power is likely to be used and also the systems and technologies that are being acquired by potential opponents, such as WMD, aircraft, submarines and information technologies. In addition the increasing array of these capabilities is not only available and increasingly attractive to state actors but also to emerging non-state actors, that may oppose much more powerful nations, threatening their capability to project military power and to maintain their overseas presence[42]. Thus a continuous shift in the balance of power and a decreasing influence of the Western powers are very likely[43].

Illustrative examples of the type of technologies that are widely available can be pointed out. North Korea is building two versions of missiles with ranges up to 620 miles and up to 3100 miles that could strike US forces in Asia as well as in Alaska. At the same time North Korea is seeing significant investment from missile sales to countries such as Iran, Syria, Egypt and Libya. A submarine arms race among third world nations is taking place. Some of these countries are acquiring submarines as rapidly as their economies will permit, posing a considerable challenge to the Western world today more complex, diverse and unpredictable than at any time in the Cold War period. Meanwhile concerns over the security of Russia's nuclear facilities were addressed by the US Vice President Al Gore in September 1997, whilst the inadequate safeguard of the network of nuclear weapons facilities run by the Department of Energy of the US, has been recently reported by the Pentagon. Officials acknowledged many of these problems and are addressing the deficiencies. Meanwhile, Congress ordered the investigation of security failures at these facilities[44]. This emerging environment of proliferation of weapon systems and potential proliferation of nuclear weapons may pose significant challenges to the Western nations to operate and manage future crisis in littoral areas, and may well undermine the sea lift capacity[45]. Moreover, one can argue that these emerging signs of power asymmetry may also be employed at considerable distances from the home waters of potential opposing nations, particularly those acquiring submarine forces, threatening the Western forces and their sea lift assets and challenging their force protection organization, while in transit or just before the arrival in a littoral operations area, taking advantage of a surprise action. This will clearly be blue water business, requiring the employment of operational concepts and deep-water assets in much the same way as in the Cold War period. Therefore, apart from the expeditionary operations, where forces are packaged to best deal with the littoral battlespace, a deep-water capacity must be retained in face of new potential uses of asymmetric forces.

The military importance of space is increasing in such a way that "…the US will not go for a war without space superiority…"[46]. The commercialisation of space and the military use of civilian space assets for communications and reconnaissance are increasing rapidly. Those assets are vulnerable to the electromagnetic pulse effects of a nuclear explosion but also to high-energy weapons like lasers. In future conflicts, space assets are likely to be threatened or even attacked, causing command and control and information disruptions. Consequences would be aggravated by the inconvenience that such systems are not rapidly replaceable. It is well known that the US success in the Gulf War is partly due to the information superiority based on space assets that were not highly vulnerable to disruption. However access to satellite information and imagery is spreading and so

the US and Allies advantage is decreasing[47].

An increase of potential regional conflicts can be expected in East Asia, in Caspian Sea and in Persian Gulf as will be analysed in the following section of this paper. However the spectrum of conflict in the future is likely to require military operations to support humanitarian relief or recovery to peacekeeping or peace enforcement in area conflicts involving substate and nonstate actors, in possession of high technologies and asymmetrical means capable of threatening the Western world. The prevention of this proliferation will be difficult, as globalisation enables external penetration without regard to national borders and some argue that these actors could easily acquire and use nuclear weapons at high altitude at the beginning of a conflict to breakdown the strength of a Western coalition based on the space assets that provide the vital situational awareness to conduct further operations[48]. The area conflict is characterized by extreme violence fought with irregular forces against non-combatant personnel. Bosnia is an illustrative example. In addition many African states formed post-colonialism are confronted with an increasing ungovernability leading to state failure. The combination of high birth rates, poverty, disease and deforestation give rise to mass migrations from the countryside to overpopulated coastal areas. This exacerbates difficulties and encourages crime, the rise of private armies and the appearance of warlords. These groups will exploit the use of technologies and will be extremely lethal and uncontrollable by the weak structures of the state. They will create situations, with which the Western world is not politically, military and psychologically prepared to deal[49]. Therefore littoral areas will accommodate much of the future conflict.

Also at the substate level, insurgent factions seek to force changes in the current government or to establish a new regime through revolutionary war. In a situation where governments break down due to the problems of poverty, drugs, population diseases or environmental concerns, authority could be taken over by a military or paramilitary force. Cambodia is an example where political change took place at the direction of the military. In the future a combination of fragmenting societies and the proliferation and lethality of modern weapons may result in conflicts spilling over boundaries involving neighbours or even major powers[50].

The nonstate conflicts occur when nonstate actors fight between themselves or with state or substate entities. Organized crime is spreading and filling power vacuums in many countries or regions. In Colombia drug cartels have plagued the government and undermined political elections. In Russia organized crime has easy access to force and seems to have established global links to other criminal organizations. These criminal armies are capable of attacking the third world countries and challenging the West stealing significant amounts of money through high tech computer and software techniques, for further operations[51].

This challenging and potentially violent world is to be addressed by security planners in either linear conflicts between states, that may still occur, or nonlinear conflicts involving the state versus substate or nonstate actors or a combination. Nonlinear warfare relies basically on asymmetric strategies and operations and will be the preferred future war, in which the potential adversaries will pursue three basic objectives. First is to deter the Western forces and coalitions, from taking any kind of action, through the use of weapons of mass destruction against a host nation for a deployed basing, or exercising a terrorist action destroying infrastructure, disrupting satellite systems or information systems, denying information dominance. Second if forces are already deployed, the opponent will seek to delay or deny its arrival into the area of operations, eventually targeting the forces using real-time commercial satellite imagery coupled with precision weapons, mining potential landing areas, ports of disembarkation and choke points, or even opposing landing inflicting a high number of casualties. Another option is the use of the diesel brown-water submarine to pose a unique challenge to naval forces designed to fight the blue-water submarines of the Cold War[52], or to attack shipping going to a potential host nation, replenishing ships or pre-positioned vessels or other high value units. One can argue at this point that these submarines may well be employed in considerable distant ocean waters to threaten the forces while in transit. To what extent is this situation different from the deep-water anti-submarine operations during the Cold War days? Except in terms of concept, there is not any difference. Therefore naval forces must retain a blue-water capability to face the uncertainty of the future deadly threat capable of inflicting the number of casualties sufficient to reverse the policy of a stronger power and deny a military operation. Finally if forces are already in the region, the adversary may conduct an attack to force the termination of the operation. The rapid withdrawal of US forces from Somalia after being under attack is an example[53].

If the littorals contain the potential problem zones, it is the littorals that will be the problem zones for the navies. The enemy is adapting himself to the new technologies and opting for nonlinear asymmetric strategies to defeat the Western technological superiority, putting at risk the naval forces

operating in the littoral by disrupting its network centric capabilities, a vital tool of naval forces in the future[54].

CHANGING STRATEGIC ENVIRONMENT

In the East Asia region, following the Cold War, the warming relations of the great powers, the ASEAN (Association of the South-East Asian Nations) Treaty of Amity and Cooperation, cooperative commercial relations and the increasing trade and interdependence among the East Asian countries (North Pacific and Southeast Asian countries) and other measures to optimise and rejuvenate the existing security arrangements through bilateral exercises and other confidence building measures, much contributed to a greater stability and security climate in the area. However there are still problems. The most serious difficulties are: the territorial disputes between Japan and Russia; multiple and overlapping claims in the China Sea by China, Vietnam, Malaysia, Brunei and Philippines; tensions in the Taiwan Strait; the division of the Korean Peninsula; the dispute between Singapore and Malaysia over Pedra Branca and between Malaysia and Indonesia over the Islands of Sipidan and Litigan. Each could develop into a crisis with serious implications for international maritime navigation because the area is a crossroad of east-west maritime communications. Other problems like protection and management of natural resources, environment protection, nuclear waste dumping and refugees may give rise to the threat of use of force[55]. The demand for oil and natural gas will increase, leading to possible conflicts in the Caspian region and in the Persian Gulf[56]. In addition East Asian countries are mounting a considerable military-industrial complex and indigenous arms industries are capable of producing the major types of sophisticated weapons, and may offer high-tech weapons at considerably cheaper prices[57].

Countries have been building up their military forces because of the strategic uncertainty following the Cold War. Maritime capabilities are one of the most important factors of power balance in East Asia, and the existence of three levels of naval forces may be noted: the superpower level, the major regional power level and the minor regional power level. At the superpower level the US navy is reducing its presence and the Philippines bases have been removed. The Russian Pacific Fleet is deteriorating due to Russian economic problems, and many surface ships, nuclear submarines and naval fighters have been reported unable to operate. However at the regional level China is expanding its naval capability from a coastal defence role to power projection focusing mainly on the defence of its vital SLOCs (from and to the Persian Gulf) and offshore assets. Currently the Chinese navy has about 50 surface combatants, 50 submarines (including one nuclear ballistic missile-firing submarine) and other fast attack craft to exert Chinese influence in a wide area, particularly where territorial disputes over the Spratly Islands and Paracel Islets remain unresolved. A naval shipbuilding programme is underway and in the first stage major surface combatants equipped with guided missiles are planned. In the second stage, up to 2020, two aircraft carriers and the required escorts will be built, and in the third stage, beyond 2020, the Chinese navy aims to have global reach. Also at the regional level, Japan is acquiring military capabilities giving it the ability to counter or offset China. It addressed air defence and protection of SLOCs as top priority. One Aegis-class cruiser is commissioned and more are procured. In addition, the National Defence Programme Outline focuses on the acquisition of surface and submarine forces and fixed-wing patrol aircraft under the rationale of an independent defence capability to emphasize its naval presence in the region[58]. At the minor regional power level, East Asian countries are increasing defence budgets as a signal of the economic recovery. Military procurement is now focused in air and sea capabilities to protect offshore territories. Australia, Indonesia, Malaysia, Singapore, North and South Koreas, Taiwan, Thailand and Vietnam are acquiring submarines, the proliferation of surface combatants is even broader and Thailand has commissioned an aircraft carrier[59]. These nations are converting their coastal maritime forces into ocean-going navies, and therefore forming blue-water navies capable of sustained operations far from port (should they acquire replenishing units), and are also purchasing significant quantities of fighters[60]. Taiwan is developing maritime strike capabilities based on the acquisition of 28 surface combatants (from the US and France) with anti-ship missile systems[61], and 210 fighters[62]. Some countries are already addressing the amphibious component as a key factor of naval power. These trends reflect the increasing complexity of maritime security in the region as a result of the strategic uncertainty of different national interests and of the increasing threat they pose to their neighbours and rivals as their military capabilities grow. It is likely that East Asian nations will become major arms traders. This is the kind of environment in which a regional arms race can arise and spiral out of control. Warships will continue to sail in distant waters in support of national political and economic interests taking advantage of the mobility and flexibility of maritime power. The establishment of the 200 mile Economic Exclusive Zones under the UN Convention on the Law of the Sea and the growing exploitation of the sea resources will increase the need for surveillance, leading to potential incidents between maritime forces.

The Indian Ocean rim contains about 65% of oil reserves and 31% of natural gas worldwide (in the Persian Gulf), and a huge deposit of other minerals resources. The oil and gas from this area is sent

to countries of the Indian, Atlantic and Pacific Oceans. Facilitating the communications between the Atlantic and the Pacific, the Indian Ocean accounts for the transportation of the highest tonnage of goods in the world. The security of the SLOCs is therefore vital to enable this flow through the Straits of Hormuz, Malacca and Singapore or to the Suez Canal or the Cape of the Good Hope, or just in the Indian Ocean as most of the countries' trade is seaborne. The stability in the area has been constantly under change. India and Pakistan are nuclear capable and have fought in the past, and the reform issues over the province of Kashmir and Jammu are not yet resolved. A state of deterrence exists between the two countries. In late 2001 a terrorist attack in India, perceived to be backed by Pakistan, almost brought about a war between the two. Iraq, despite the consequences of the Gulf War still has the ability to threaten the stability of the region. Iran is a major supplier of energy to China, while Beijing and Moscow provide Iran with advanced technologies for civilian and military purposes[63]. Iran is increasing its defence spending. The Iranian navy relies on 5 principal surface combatants but the acquisition of 3 Kilo-class submarines from Russia is a point of concern. The proliferation of small arms capable of defeating helicopters and drugs trafficking is another concern in the Indian Ocean rim, which is encouraging the rise of non-state actors. Sri Lanka is fighting against the insurgency of the Tamil. The new regime of the sea and the limited distances between states gives rise to claims over maritime boundaries and EEZs[64].

In terms of the naval power balance in the region significant changes are noted. After the Gulf War, and since 1995 the US deployed a permanent fleet in the Western Indian Ocean, and increased its commitment with the new 5th Fleet in the Persian Gulf and other ships in the central and eastern Indian Ocean. This fleet reflects the shift from the open-ocean war to the power projection and employment of naval expeditionary forces and joint operations to influence events in the littoral, and in this particular case in Iraq and Iran. Chinese interests in the Indian Ocean include defence ties with Pakistan, Bangladesh and Myanmar, the latter being able to provide future base facilities to Chinese surface warships and submarines[65]. The majority of the 35 littoral and island states possess coastal patrol capacity and only 14 are surface and subsurface capable. The Indian navy is suffering enormous reductions due to political and financial constraints with great effect on the carrier and submarine component. Nevertheless India possesses 1 aircraft carrier, 16 submarines and 19 surface combatants and ordered another 7. In pursuing and strengthening a blue-water navy, India is seeking to add a second and possibly a third aircraft carrier and one or more submarines capable of firing long-range missiles[66]. The Pakistani Navy ordered 3 conventional Agosta submarines from France (raising to a total of 9) and 3 maritime aircraft from the US, and has recently acquired 7 surface combatants (total of 11). The perceived Iranian threat in the Persian Gulf led the United Arab Emirates to plan a substantial increase in its anti-submarine capabilities including 4 frigates.

Numerous bilateral exercises continue to take place in the Indian Ocean. The Indian navy conducted naval exercises with 13 countries including the ASEAN countries of the Indian Ocean rim. In late 2000 Indian warships conducted naval exercises with Vietnam in the South China Sea. This was not welcomed by China as that area is in its sphere of influence. Assessments however, point out that exercises were not intended to provoke Beijing, but to rehearse India's capability to function as a blue-water navy and let people know they were around[67]. Port visits exchanges between India and ASEAN states have also been noted. Exercises amongst the countries of the Indian Ocean are not frequent, as there is no political will or organisation to do so because this would mean military alliances and misperceptions, and there is an absence of common perception of a threat and the defence of SLOCs does not necessarily imply multilateral exercises[68].

In the Mediterranean Libya remains hostile to the West, and Algeria and Egypt have domestic problems with Islamic extremists. Turkey is facing the Kurdish problem and the growing influence of Islamic fundamentalists, and at the same time territorial disputes with Syria and Iraq are still unresolved. Exploitation interests of Azerbeijani oilfields created problems with Russia[69]. The well known conflicts in the former Yugoslavia and in Kosovo, involving the continuing intervention of the UN, NATO and EU, are far from a definitive solution and are destabilizing the region, in particular Macedonia. The conflict between the Israelis and Palestinians persists and peace seems to be far away. Other potential conflicts in the Middle East may arise in sharing water resources. Finally, the proliferation of weapons including WMD is growing with Libya, Syria and other radical Arab countries in possession of missiles with the range to strike countries in the northern rim of the Mediterranean. The proliferation of submarines and missile-armed surface combatants and fighters in the North-African countries, is raising some concern among the Western navies operating in the Mediterranean[70].

The flow of seaborne trade through the Mediterranean is of vital importance to the West and thus the security of the region is of particular concern. The European security perimeter extends from the Balkans into central Asia, encompassing its gas and oil reserves, and into North Africa, facing the instability of the Mediterranean southern littoral. It adds an extra dimension to European Defence Strategy. The Mediterranean deserves particular attention, and the cooperation of maritime forces

from NATO, EU, PfP and also from some Arab countries offers the politicians an instrument to achieve stability in the region. However the Mediterranean is a very unstable region. With significant political, economic and military changes and several Arab countries likely to be ruled by Islamic anti-Western fundamentalists, a higher level of hostility can be anticipated.

To finish this partial overview of the strategic environment some thoughts on Russia's current and future situation regarding naval power must be addressed. Russia's sea related economic interests are significant, as its continental shelf and EEZs possess rich marine products, minerals and other resources. Russia has been experiencing democracy, political instability, economic crisis, organized crime and territorial disputes. Each has impacted upon the Russian navy which currently receives only 20% of the funds necessary for operations, support, maintenance, personnel and to solve the environmental problems surrounding disposal of 100 decommissioned nuclear submarines. If Russia cannot restore finances and material resources in the near future it will only have 6-8 ready ballistic submarines (SSBN) (30% of the naval nuclear warheads), 25 multipurpose SSN, 10 conventional submarines, 1 aircraft carrier, 3 guided missile cruisers, 10 guided missile destroyers, 12 guided missile frigates and 70 missile boats and minesweepers. The navy is now reduced by half and is aging. Consequently developments in the US and other NATO navies are seen as a potential threat. In the mid term, a threat could emerge from the East, as China and other countries in East Asia are pursuing a large-scale rearmament with some nuclear capable[71]. Currently, while the SSBN fleet is reducing to 25-30 units, a great effort is made to develop the SSN fleet with the Akula II and the Severodvinsk, in contrast to the slow construction of surface combatants limited to frigate and destroyer size[72].

Broadly speaking the navy's role is to provide sea-based nuclear deterrence and to support Russia's wide interests, and the Russian policy makers are aware of the need to maintain a credible naval capability. There are 2 schools of thought regarding the future role of the Russian navy. One proposes a large blue water navy capable of dealing with any or all threats. The other is the line of a smaller navy to defend Russia's territory against likely local or regional threats. Actually Russian security interests require a large ocean going navy to deter aggression, to promote Russia's national interests around the world, to provide security of the economic activities on the ocean and to repel attacks should deterrence fail[73]. Despite the extensive investment required, decisions such as preserving the battle cruisers Kirov class in service, demonstrate that Russia is committed to blue water operations involving large missile cruisers. This may indicate that new doctrine will continue to reflect the Soviet era concept of layered defence, keeping enemy forces away from home waters. The naval exercises in August 2000, during which the Kursk accident took place, showed a traditional posture in order to defeat a naval enemy concentrated around aircraft carriers[74]. The second approach is that due to the economic situation, Russia cannot afford a big navy. Therefore leadership would prefer a smaller high tech navy to provide coastal protection and also capable of interacting regionally, with other naval powers, or with the UN, while maintaining the strategic nuclear deterrent (SSBN).

The Russian navy ability to carry out blue water missions will decrease in the near term until sufficient new high quality units, planned or under construction, are delivered to the fleet. Unless a dramatic change in the economy and a commitment to increase defence resources takes place, it is unlikely that the Russian navy could generate the necessary capacity in the future to be superior to neighbouring navies or equal coalition forces. However, good relations and cooperation with neighbours and the West are increasing, and a number of naval exercises and visits have already taken place, which demonstrate Russian investment in the role of naval diplomacy, for a long-term effect[75].

Discussion in this section demonstrates tendencies in naval programmes, either blue-water or brown-water, and particularly demonstrates that Western nations' navies may be involved in a coalition or international maritime force aimed countering crisis anywhere in the world. Most significantly they may have to face or eventually strike blue-water maritime forces, when transiting in ocean or arriving in the littoral operations area with a tailored expeditionary force to project power ashore. This scenario clearly requires and is a function of blue-water capability rather than brown water capability.

CONCLUSIONS

There is a significant difference between blue water navies and the brown water navies, mainly derived from their strategic concept. A blue water navy has sustained reach, poise and lift capacity to conduct either sea control or sea denial operations wherever necessary over the world, which means an offensive character. Opposed to this is the brown water navy concept, invested of a defensive character, without the attributes to conduct sustained operations very far from home waters, yet capable of conducting a limited form of sea control or sea denial.

The end of the Cold War brought a significant shift in maritime operations. From the pure concept of sea command or sea control to counter the Soviet Union inspired by Mahanian principles, maritime operations are now focused on the complexity of the littoral. Therefore, many argue, brown water navies are needed rather than blue water navies. However one must be careful, because what is suggested is that the navies needed are those capable of projecting force and establishing sea control over areas at considerable distance from home nations, and simultaneously capable of being employed in littoral operations. Thus naval forces require blue water attributes and must also meet brown water requirements to conduct successful littoral operations - a completely different idea than the traditional view.

The sea enables the movement and projection of military power into distant regions, maintains a key role in international trade, and remains a major source of food, energy and industrial products. Sea routes for the passage of military forces to conduct military operations or diplomacy anywhere in the world are of vital interest. Almost all global trade is carried through the oceans and oil products constitute the largest seaborne trade. New technologies such as containerisation facilitated, improved and added value to maritime transport. Two emerging trends are worthy of note. Firstly states are seeking the benefits of the flags of convenience enabled by the internationalisation of maritime transport. Secondly there is a continuing growth of seaborne trade in the Pacific over to that in the Atlantic. Therefore nations wish to exercise sea power to protect sea resources and protect their interests. This environment seems to encompass traditional roles for the navies. However, this also brings new challenges based on complex interplays where national and international interests have to be considered in remote regions, some of them with potentially dangerous balances of power. Again this requires navies capable of projecting power anywhere around the world to defend national or international interests.

Asymmetric warfare is likely to be the first choice of a weak actor in the future to counter the stronger national or coalition military forces, imposing unacceptable losses, to undermine strategic objectives. The proliferation of conventional weapons and of WMD and the development of technology makes such systems available to state, substate and nonstate actors. Hence the management of a crisis in the littoral may be denied by opposing asymmetric use of force ranging from cyber-attacks on network centric capabilities disrupting technological superiority, to employment of nuclear devices to counter space-based assets and to submarine threat in deep waters. The escalation of violence in weak or failed states enabling the appearance of warlords, the insurgent actions to change a political regime, the growth of organized crime or a combination of these situations is likely to provide the environment for future littoral operations. Therefore, potential opposing forces will use asymmetric assets to deter, delay or deny the deployment and arrival of coalition forces in the littoral operations area. Again this means that blue water naval forces must be equipped and packaged in a manner to optimise the employment of the core capabilities to project power ashore. This would be difficult for a purely brown water naval force.

The balance of power in East Asia continues to change as states are increasing naval forces as a result of rapidly developing economies. Territorial disputes, the proliferation of high tech weapon systems, and the increasing threat that states pose to each other as military capabilities grow contribute to region instability. China and other countries are undertaking naval programmes that will confer them a blue water capability.

The Indian Ocean rim contains the most significant energy reserves of the world, which are transported by sea to countries in the Atlantic, the Pacific and the Indian Ocean. The stability of the area and the security of the SLOCs are key. India is managing and planning to enlarge its blue water navy. Indian incursions into the South China Sea for exercises are not well received by China, while future base facilities for the Chinese navy are disliked by India. Pakistan is enlarging its naval forces and Iran is acquiring 3 new conventional submarines for the concern of the Persian Gulf states. Meanwhile some Western countries are maintaining a strong naval presence in the area.

The Mediterranean has been an unstable region. Some North Africa and Middle East states are believed to be acquiring WMD and to be in possession of long-range missiles threatening the northern rim of the Mediterranean, and the proliferation of submarine, surface combatants and aircraft is noted. The on going conflicts in the Middle East and the insecurity in Kosovo are far from resolved.

Russia reduced its navy by half, but is trying to develop the SSN fleet. There are at present two main lines of thinking regarding the future. One developing arguments in favour of a blue water navy and the other favouring a brown water defensive navy, while maintaining SSBN deterrent capability.

Not only do these trends demonstrate that blue water capability is currently sought by many nations, pretending to augment their sphere of influence (which shows that the concept is more relevant than ever), but they also demonstrate that in the future Western navies or naval coalitions may well have to

face blue water naval forces, thus playing again the deep water and command of the sea game, should a crisis arise in any place in the world.

This paper concludes that the navies required for the 21st century are blue water navies fitted with the appropriate core capabilities to project power ashore wherever necessary.

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